Superfund Records Center
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U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) - NEW ENGLAND

Region 1, New England

RCRA PROGRAM STATEMENT OF BASIS FOR CIBA SPECIALTY CHEMICALS CORPORATION WARWICK, RHODE ISLAND PROPERTY

MAY 9, 2002

Ciba Specialty Chemicals Corporation (Ciba) has a property located off of Warwick Avenue in Warwick, Rhode Island ("Ciba-Warwick"), which is subject to clean up requirements under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 et seq. The RCRA clean up program is known generally as "RCRA Corrective Action" and is designed to insure that facilities subject to the RCRA clean up requirements have investigated and adequately cleaned up any releases of hazardous waste and/or hazardous constituents that have occurred at the property.

This document, called a "Statement of Basis" will describe EPA's remedy proposal for the Ciba Warwick property, which Ciba soon plans to sell. This property was once part of a bigger facility, the former Ciba-Geigy facility. EPA will issue a Statement of Basis for the remainder of the Ciba Geigy facility at a later date. In addition to describing the proposed remedy, this document will (a) explain how the public may comment on the proposed remedy; (b) include a brief history of the site and the principal findings of the site investigation; (c) explain the extensive soil excavation work that Ciba already has completed; and (d) provide EPA's rationale for choosing the proposed remedy.

SUMMARY OF PROPOSED REMEDY

Ciba already has excavated most of the contaminated soil on the property, so this remedy addresses residual soil contamination that does not present a threat if the property remains in industrial use but that may present a threat if the property is used for residential purposes. The Proposed Remedy is for an Institutional Control (IC) to be placed on the property. EPA defines Institutional Controls as non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination. An IC works by limiting land or resource use and by providing information that helps modify or guide human behavior at the sites. The specific IC that is proposed in this remedy is an Environmental Land Use Restriction (ELUR), which will "run with the land" as the property changes hands. This ELUR will attach to the deed of the property and will restrict the property to Commercial/Industrial land use and prohibit groundwater under the property from being used as a source of drinking water. This ELUR will be developed in accordance with RI DEM Remediation Regulations as amended in August, 1996. To ensure that the property remains in industrial use, the Proposed Remedy also includes a requirement to periodically monitor the land use. If any future owner wishes to use the property for residential purposes, the owner will need to petition for termination or modification of the ELUR.

SEMS DocID 638014

Investigations and subsequent soil removal performed at the Ciba-Warwick property and overseen by EPA and RI DEM demonstrate that the existence of hazardous constituents does not pose a threat to human health or the environment under the above described land use.

YOUR ROLE IN THE DECISION PROCESS

Your Comments on the Proposed Remedy

EPA is conducting a public comment period from ***May 14, 2002 to June 13, 2002***, to provide an opportunity for public involvement in the decision on this Proposed Remedy. During the comment period, you are invited to review this Statement of Basis and other relevant documents found at the locations listed on Page three of this document. Written comments on this Statement of Basis will be accepted throughout the 30-day public comment period. A final decision regarding the Proposed Remedy will not be made until the public comment period has closed and all environmentally significant comments received during this period have been evaluated and addressed. Based on any new information or comments from the public, EPA may modify its proposal. EPA will consider your comments in selecting the Final Remedy. EPA's final decision will be issued in an enforceable order.

Written Comments

If, after reviewing the information on Ciba-Warwick, you would like to comment in writing on the Proposed Remedy or on any other issues related to this proposal, you should send your written comments ***(postmarked by June 13, 2002)*** to:

Frank Battaglia, RCRA Facility Manager
U.S. Environmental Protection Agency - New England Region
Office of Site Remediation and Restoration - HBT
One Congress Street, Suite 1100
Boston, MA 02114

How Your Comments Will be Considered

EPA will consider your comments as part of the process of reaching a decision regarding the Proposed Remedy at Ciba-Warwick. EPA's final decision will be accompanied by a *Response to Comments* (RTC). The RTC summarizes EPA's responses to environmentally significant comments received during the public comment period. Once the RTC is signed by Director, Office of Site Remediation and Restoration (OSRR), it will become part of the Administrative Record, which contains the site documents relevant to the Proposed Remedy.

Public Hearing

EPA will, if there is enough interest, hold a Public Hearing ***June 10, 2002 from 7:00 to 9:00 pm at the Warwick City Hall Lower Conference Room located at 3275 Post Road in Warwick*** to accept oral comments on the Proposed Remedy. Please note that comments made at the hearing

will be addressed by EPA in writing. Therefore, EPA will not provide responses to questions during the hearing itself. Comments made at the hearing will be transcribed, and a copy of the transcript will be added to the Administrative Record. The administrative record is available for public inspection at the EPA Records Center at One Congress Street in Boston, MA, and at the information repository locations listed below. You may request a hearing by contacting Frank Battaglia at the above address before **June 3, 2002**.

More Information

Because this Statement of Basis provides only a summary description of clean-up activities completed and planned for Ciba-Warwick, you are encouraged to consult the Administrative Record. The complete Administrative Record is available for review at:

EPA Records Center
One Congress Street
Boston, Massachusetts 02114
(617) 918-1420
Hours: Monday-Friday: 10 a.m. - 1 p.m. and 2 p.m. - 5 p.m.

Portions of the Administrative Record relevant to the Proposed Remedy will be available at:

Warwick Public Library, Research Department
600 Shady Lane
Warwick, Rhode Island 02889
(401) 739-5440
Hours: Monday - Thursday: 9 a.m.- 9 p.m., Friday & Saturday: 9 a.m. - 5 p.m.

RI DEM Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908
(401) 222-2797 x7105
Hours: Call Margaret Dein Bradley for appointment

HISTORY OF CIBA-WARWICK

As mentioned above, the Warwick property is a portion of the former Ciba-Geigy facility of Cranston, Rhode Island. The property is located west of Warwick avenue and across the Pawtuxet River from the former Ciba-Cranston facility **(see Figure 1)**. Ciba-Warwick is bordered mainly by the Pawtuxet river with some residential property to the north and a wooded area to the west. The Ciba-Geigy facility closed in 1986 and the company began to dismantle the facility. The Warwick property was in use by Ciba prior to 1986 and contained a cafeteria, maintenance shop, vehicle parking area and a storage area for drums of hazardous waste and other materials used at the facility.

Since 1986, all buildings have been demolished and all that remains is the parking area.

CORRECTIVE ACTION ACTIVITIES AT CIBA-WARWICK

A RCRA Facility Assessment (RFA) was completed on January 20, 1988. The RFA noted evidence of releases of hazardous materials to the environment from Solid Waste Management Units (SWMU) at the Ciba-Geigy facility. SWMUs are areas where hazardous waste storage, treatment or disposal activities (including spills) are believed to have taken place. On June 16, 1989, EPA issued an Administrative Order on Consent (Order) under Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) to the former Ciba-Geigy Corporation. The Order required Ciba-Geigy to conduct a RCRA Facility Investigation (RFI) to investigate releases identified in the RFA. The RFI identified five (5) SWMU at Ciba-Warwick (SWMU-1,5,6,9,16), four of which (SWMU-5,6,9,16) had releases requiring further investigation. The RFI was completed and a report was submitted to EPA on July 31, 1995. The RFI revealed that SWMU-5 and SWMU-6 had elevated levels of contaminants which required further action, and the other three SWMU required no further action. A Corrective Measures Study (CMS), which identified various clean-up options, was submitted on September 29, 1995, and a final revision submitted on July 31, 1996. As a result of the RFI and CMS submittals, Ciba developed an On-Site Interim Remedial Measures Workplan (IRM) in March 1995 to address the removal of contaminants at SWMU-5 and SWMU-6. EPA and RI DEM provided oversight of the development and implementation of this IRM. The implementation of the IRM occurred during 1995 and 1996, and a Revised On-Site IRM Report was submitted to EPA on August 6, 1996. A detailed discussion of this IRM appears in the next section.

In December, 2001, a Letter Report was submitted to RI DEM and EPA on behalf of the prospective purchaser/developer (Herff Jones). This document detailed additional investigations conducted from 1997 to 2001 and proposed future land use management controls for the property to facilitate transfer to prospective purchasers.

CLEANUP ACTIVITIES TO DATE

The results of the RFI indicated that soil contamination was largely confined to SWMU-5 and SWMU-6. The results of the RFI indicated that soils at SWMU-5 and SWMU-6 contained elevated levels of PCBs, VOCs and some metals.

SWMU-5 had elevated levels of PCBs and Chlorobenzene. The main risk to human health was from the PCBs in soils. Approximately 570 cubic yards of contaminated soils were removed from this SWMU in three phases beginning in 1995 and ending in 1996. SWMU-5 soils were removed to a depth of 6 feet below grade. Confirmatory soil samples at the bottom and sides of the excavation were below the 5 ppm cleanup criteria set by EPA and RI DEM. The excavation was backfilled with certified clean soils (less than 1ppm PCBs). No further cleanup action is needed at SWMU-5

if the property remains in commercial/industrial use, and no further cleanup may be necessary at this SWMU even if the property becomes residential.

SWMU-6 had elevated levels of non-hazardous zinc oxide. Approximately 32 cubic yards of contaminated soils were removed from this SWMU in 1995. No further cleanup action is needed at SWMU-6 if the property remains in commercial/industrial use, and no further cleanup may be necessary at this SWMU even if the property becomes residential.

The results of the RFI indicated little impact to site groundwater from on-site activities. On-site groundwater data was comparable to background groundwater data except for chlorobenzene at well MW-11s which was detected at an average level of 1.2 ppm which was above background levels (.0025ppm) but well below the RI DEM GB Groundwater Objective (3.2 ppm) for non drinkable groundwater. This well is located at the SWMU-5 area. This level of chlorobenzene was detected before the removal of contaminated soils at SWMU-5. More recent sampling data indicates that the chlorobenzene level in MW-11s has decreased by 85% to .18 ppm and should continue to decline over time. In summary, the groundwater is safe for its current GB designation and is very close to being safe for drinking purposes. No further cleanup action or monitoring is needed if the site remains in commercial/industrial use, and no one drinks the groundwater.

FUTURE LAND USE AT CIBA-WARWICK

Based on Ciba's plan to sell Ciba-Warwick to Herff Jones Corporation who in turn would redevelop the property, the site can be considered a *Brownfield* under EPA's *RCRA Brownfield Prevention Initiative*. EPA defines a Brownfield as "a site or portion thereof that has actual or perceived contamination and an active potential for redevelopment or reuse." EPA's Brownfield Initiative focuses on empowering States, communities and other stakeholders in economic development to work together to successfully cleanup and sustainably reuse Brownfields. Redevelopment of formerly contaminated properties can benefit the surrounding community economically and may reduce development pressures on pristine land or "green fields."

By redeveloping Ciba-Warwick, Herff Jones will be returning the property (idle since 1986) to productive economic use. If redeveloped, the property would increase job opportunities and commerce in Warwick and add to the tax base. This Proposed Remedy will facilitate site redevelopment by clarifying what the appropriate uses are for the property. Herff Jones intends to build a manufacturing facility and install and maintain an asphalt paved area, building foundation, landscaping as a cover for the open areas and a fence to restrict access. This will be further protective of human health and the environment by eliminating any exposure to site soils and groundwater.

The property is currently zoned for Commercial/Industrial use. In consideration of the proposed redevelopment of this property, EPA and RI DEM have agreed with Ciba to restrict the future land

use to its current commercial/industrial use. To ensure that the property is never used for residential purposes without the approval of the EPA and/or RI DEM, Ciba must execute and record an environmental land use restriction (ELUR) that attaches to the deed and runs with the land. If future owners desire to use the property for residential purposes, they may work with EPA and/or RIDEM to devise a plan that will make the property safe for residential use. Such plan will be subject to public comment.

SUMMARY OF RISKS

Sporadic and very low levels of residual soil contamination exists at **SWMUs-9 & 16** at depths ranging from 2-6 feet below the surface. These contaminants consist of arsenic, beryllium and poly aromatic hydrocarbons (PAHs) some of which are comparable to background levels or slightly above RI DEM residential standards. To assess the risks from residual site contaminants, EPA looks at potential exposure of humans, plants, and wildlife at or near the site to site contaminants under current and future use scenarios. While there are single family homes located along the property fence line, the property is enclosed by a locked fence restricting access. Therefore, based on current site conditions, the receptors potentially at risk are trespassers, and on-site plants and wildlife. Based on Herff Jones's plans to construct a manufacturing facility and associated parking lots and driveways at the site, additional potential receptors would be construction workers, factory workers or visitors at the site.

During construction, the major route of exposure to workers and visitors from residual contaminants, if it happens at all, would be through inhalation or ingestion of airborne dust. This route should be reduced or eliminated by standard dust suppression procedures (water spray and/or soil cover) and construction should be of short duration. After construction, exposure to residual contaminants is limited due to the depth of residual contaminants below the soil surface, buildings and paving covering the site and the restriction of site activities to industrial use.

EVALUATION OF THE PROPOSED REMEDY

The Proposed Remedy will place an Institutional Control (IC) on the property that (a) runs with the land; (b) restricts use of the land to commercial/industrial use; and (c) requires monitoring of the IC. As mentioned above, the specific IC that is proposed in this remedy is an Environmental Land Use Restriction (ELUR), which will attach to the deed of the property and will restrict the property to Commercial/Industrial land use and prohibit groundwater under the property from being used as a source of drinking water. This ELUR will be developed in accordance with RI DEM Remediation Regulations as amended in August, 1996.

The May 1, 1996 proposed rule for Corrective Action for Releases from Solid Waste Management Units at Hazardous Waste Management Facilities provides specific guidance in determining the effectiveness of a proposed remedy. A RCRA Corrective Action Proposed Remedy must meet four

general standards. Five selection-decision factors are also used to compare the Proposed Remedy with other alternative methods of cleanup. EPA's evaluation of the Proposed Remedy as compared to other remedies is described below. The other alternatives include the following:

1. **Additional soil excavation with treating the groundwater to drinking water standards.**

2. **No Action**. For comparison, EPA also evaluates the alternative of no further action.

General Standards

1 Overall Protection of human health and the environment. An ELUR provides protection of human health and the environment. First, potential sources of soil and groundwater contamination from the two localized release events have been remediated, and the results of soil and groundwater sampling confirmed the effectiveness of Ciba's remediation efforts. Second, groundwater at the site has been characterized by the RI DEM as GB which denotes groundwater which is currently assumed to be degraded and not suitable for potable use without treatment. Although low levels of VOCs continue to exist in site groundwater, these VOCs are below applicable State standards for a GB designation and do not pose a threat to human health or the environment, since there are no receptors. Third, soils at the site contain residual contaminants that are above RI DEM Residential Direct Exposure Criteria (DEC) but are comparable to RI DEM Industrial/Commercial DEC. An IC monitoring plan will help ensure the integrity of the IC. The new owner proposes to provide additional protection by covering/capping soils with foundations, asphalt paved parking areas, driveways, sidewalks and landscaping.

2. Attain Media Protection Standards. The Proposed Remedy attains groundwater and soil cleanup standards that are equivalent to RI GB Groundwater Objectives and RI DEM DEC for the proposed industrial/commercial re-use of the property. Alternative Remedy #1 would also meet the standards. A no-action remedy (Remedy #2) would meet these standards as long as the property remained in industrial/commercial use, but not if the property was used for residential purposes.

3. Control the Sources of Releases. The implemented remedy is based upon information which demonstrates that the two major sources of release have been addressed and there are no other known on-site releases of contaminants to soil or groundwater. Under this remedy, the Facility would still be responsible for future releases to the environment.

4. Comply with Standards for Management of Wastes. The Proposed Remedy complies with all applicable requirements for the management of solid wastes.

Selection Decision Factors

1. Long-term Reliability and Effectiveness. This remedy is effective and reliable with respect to the long-term since there currently exist no on-site sources of contaminants which may pose a long-term threat under the proposed commercial/industrial use of the site. Based upon groundwater data which indicates a steady decline in the concentration of VOCs in groundwater, the presence of VOCs in groundwater can be expected to decrease with time. The ELUR will assure that no other land use will be allowed and will be enforceable under State and Local laws. An IC monitoring plan will help ensure the integrity of the ELUR. The remedy also provides for a plan to make residential use safe, should land use ever change.

2. Reduction of Toxicity, Mobility, or Volume of Wastes. The toxicity, mobility and volume of waste impacting the environment as a result of Facility operations has been reduced or eliminated. In addition, based upon groundwater data which indicates a steady decline in the concentration of VOCs in groundwater, continued decreases in the concentration of dissolved-phase VOCs is expected, resulting in a reduction in the overall toxicity, mobility and volume of VOCs at the site.

3. Short-term Effectiveness. The Proposed Remedy is comprehensive in the short-term since there are no immediate risks to human health or the environment under current site use.

4. Implementability. Implementation of the remedy will be accomplished by way of an enforceable Order, which will require an ELUR to be put in place that runs with the land. Further, the remedy is implementable because (a) Rhode Island has an established ELUR program; (b) there is a Rhode Island conservation easement law, which abolishes old common law defenses to having such ELURs run with the land; and (c) it is easy to monitor for compliance with the ELUR when the only task involved is to ascertain whether the land remains in industrial/commercial use.

5. Cost. It is important to note that the benefit and effectiveness of an intrusive remedy, such as the installation and operation of a pump and treat system and removal of residual soil contamination would be minimal, particularly since Ciba has already undertaken extensive soil excavation work. First, the cost of reducing on-site concentrations of VOCs in groundwater to Federal or State-based drinking water standards (e.g., reducing concentrations of chlorobenzene) significantly outweighs the benefits of a pump and treat system since the groundwater is not classified or needed for drinking water in the area. Second, since Ciba already has completed extensive excavation work, only residual contamination remains, making the cost of further excavation work outweigh the benefits. The cost of implementing and monitoring the ELUR should be relatively minor, since Rhode Island has standard ELUR forms, and no complicated title issues should arise that would not

already be resolved as part of Ciba's sale of the property to the new.

Based on this evaluation and using all available information, EPA supports the Proposed Remedy for the Ciba-Warwick property. The Proposed Remedy is appropriate for the following reasons:

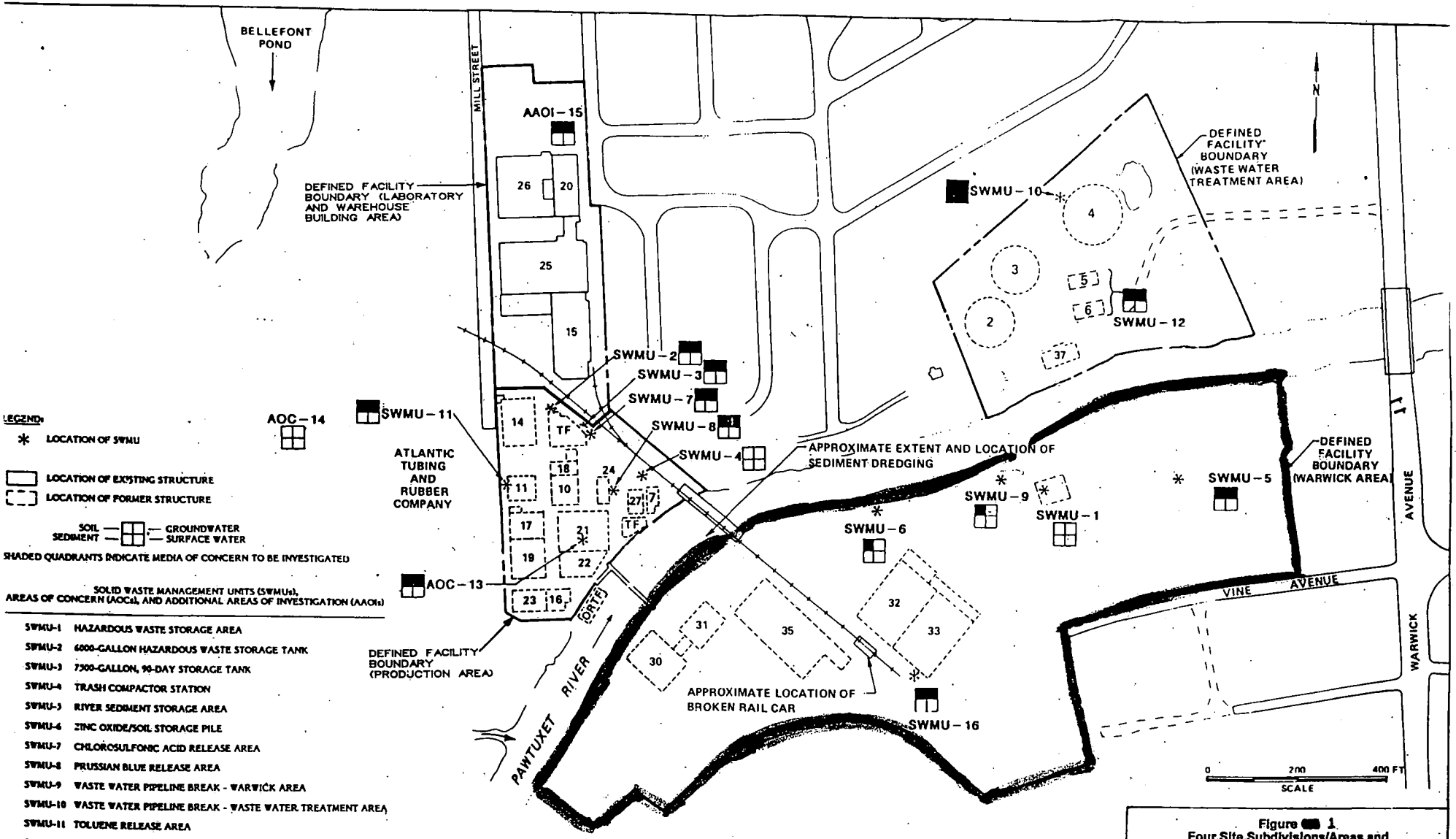
1. there are currently no releases or suspected releases that are occurring or likely to occur at the site;
2. although there were localized releases to site soils in the past, these releases have been remediated to levels commensurate with Federal and State standards for the proposed reuse;
3. although there continues to be low level dissolved-phase VOCs in the site groundwater, these VOCs are below applicable State standards and do not pose a threat to human health or the environment since there are no receptors;
4. the available information demonstrates, and EPA concurs, that the current low dissolved-phase VOC levels will naturally attenuate; and
5. there are no current or anticipated on-site or off-site exposures.

FOR MORE INFORMATION

If you have any questions about Ciba-Warwick Corrective Action or would like more information, you may call or write to:

Frank Battaglia, RCRA Facility Manager
U.S. Environmental Protection Agency - New England Region
Office of Site Remediation and Restoration - HBT
One Congress Street, Suite 1100
Boston, MA 02114

Telephone: (617) 918-1362 **FAX: (617) 918-1291**
EMAIL: Battaglia.Frank@EPA.Gov



LEGEND:

* LOCATION OF SWMU

LOCATION OF EXISTING STRUCTURE

LOCATION OF FORMER STRUCTURE

SOIL / SEDIMENT — GROUNDWATER / SURFACE WATER

SHADED QUADRANTS INDICATE MEDIA OF CONCERN TO BE INVESTIGATED

SOLID WASTE MANAGEMENT UNITS (SWMUs), AREAS OF CONCERN (AOCs), AND ADDITIONAL AREAS OF INVESTIGATION (AAOIs)

SWMU-1	HAZARDOUS WASTE STORAGE AREA
SWMU-2	6000-GALLON HAZARDOUS WASTE STORAGE TANK
SWMU-3	7500-GALLON, 90-DAY STORAGE TANK
SWMU-4	TRASH COMPACTOR STATION
SWMU-5	RIVER SEDIMENT STORAGE AREA
SWMU-6	ZINC OXIDE/SOIL STORAGE PILE
SWMU-7	CHLOROSULFONIC ACID RELEASE AREA
SWMU-8	PRUSSIAN BLUE RELEASE AREA
SWMU-9	WASTE WATER PIPELINE BREAK - WARWICK AREA
SWMU-10	WASTE WATER PIPELINE BREAK - WASTE WATER TREATMENT AREA
SWMU-11	TOLUENE RELEASE AREA
SWMU-12	WASTE WATER TREATMENT PLANT
AOC-13	PROCESS BUILDING AREA
AOC-14	ATLANTIC TUBING AND RUBBER COMPANY PROPERTY
AAOI-15	LABORATORY BUILDING WASTE WATER SUMP
SWMU-16	MAINTENANCE DEPARTMENT CLEANING AREA

NOTES:

1. STRUCTURE LEGEND IS INCLUDED IN THE RCRA FACILITY INVESTIGATION PROPOSAL, CHAPTER 1, FIGURE 3-1.
2. CIBA-GEIGY HAS IDENTIFIED ONE ADDITIONAL AREA OF INVESTIGATION (AAOI). THIS AAOI HAS BEEN DESIGNATED AS AAOI-15.

BASE MAP SOURCE: GEOD CORPORATION OF NEWFOUNDLAND, NEW JERSEY, MAPPED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS. DATE FLOWN: 2 APRIL 1989

Figure 1
Four Site Subdivisions/Areas and Locations of SWMUs, AOCs, and AAOIs

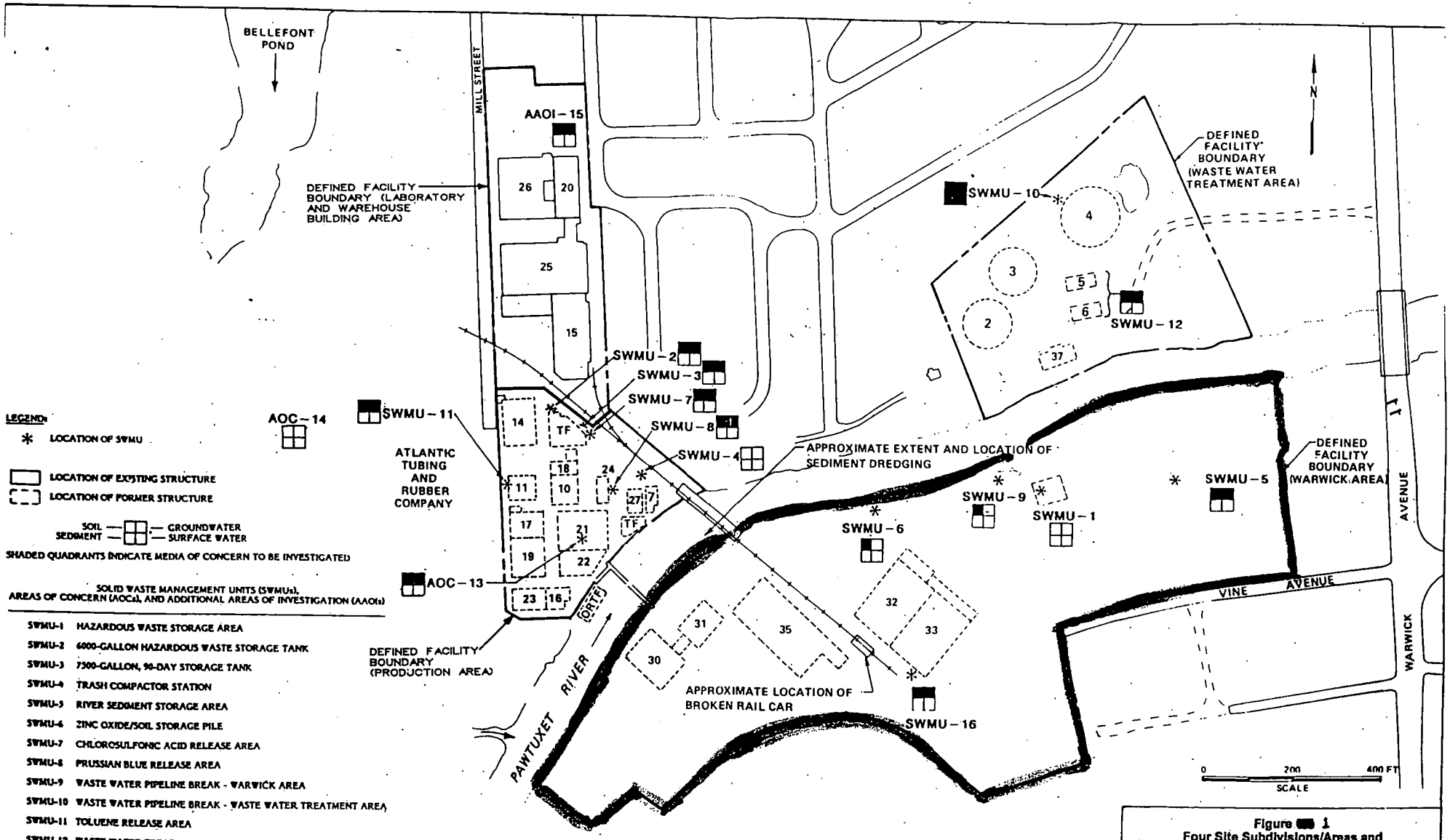
MODIFIED BY: ptrl environmental services

Project Number: 1.003.03
Date: July 25, 1995

WOODWARD – CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS
WAYNE, NEW JERSEY

DR. BY:	KF	SCALE:	1:2400	PROJ. NO.	97X4660
CK'D BY:	MH	DATE:	20 JAN 1992	FIG NO.	1-1

FIGURE 1



LEGEND:

* LOCATION OF SWMU

LOCATION OF EXISTING STRUCTURE

LOCATION OF FORMER STRUCTURE

SOIL — GROUNDWATER
SEDIMENT — SURFACE WATER

SHADED QUADRANTS INDICATE MEDIA OF CONCERN TO BE INVESTIGATED

SOLID WASTE MANAGEMENT UNITS (SWMUs), AREAS OF CONCERN (AOCs), AND ADDITIONAL AREAS OF INVESTIGATION (AAOIs)

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SWMU-12	WASTE WATER TREATMENT PLANT
AOC-13	PROCESS BUILDING AREA
AOC-14	ATLANTIC TUBING AND RUBBER COMPANY PROPERTY
AAOI-15	LABORATORY BUILDING WASTE WATER SUMP
SWMU-16	MAINTENANCE DEPARTMENT CLEANING AREA

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Figure 1
Four Site Subdivisions/Areas and Locations of SWMUs, AOCs, and AAOIs

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DR. BY:	KF	SCALE:	1:2400	PROJ. NO.	87X4660
CK'D BY:	MH	DATE:	20 JAN 1992	FIG NO.	1-1

FIGURE 1


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